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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,085	09/26/2003	Fangli Hao	LMRX-P026/P1068	7062
32986	7590	04/07/2006	EXAMINER	
IPSG, P.C. P.O. BOX 700640 SAN JOSE, CA 95170-0640			MAZZUCA JR, DOUGLAS	
			ART UNIT	PAPER NUMBER
			3726	

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/672,085	Applicant(s) HAO ET AL.	
	Examiner Douglas E. Mazzuca	Art Unit 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) 6,7,10-13,15-18,22,23 and 26-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,8,9,14,19-21,24 and 25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/13/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of the restriction of the method and apparatus for optimizing the delivery of a set of gases in a plasma processing system in the reply filed on 2/10/2006 is acknowledged. The traversal is acknowledged, however it is found not persuasive because at least two different searches strategies would be required and would place a burden upon the examiner.
2. Claims 30-48 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, and claims 6-7,10-13,15-18,22-24, and 26-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species. Applicant timely traversed the restriction (election) requirement in the reply filed on 2/10/2006.

The requirement is still deemed proper and is therefore made FINAL.

### ***Specification***

3. The disclosure is objected to because of the following informalities:

On page 2, line 2 of paragraph 0002, the phrase "to methods for methods for" should be replaced with --to methods for--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by St. John et al. (US Patent No. 3,050,786). In regards to claims 1, 9, and 14, St. John et al. discloses the following: A method for configuring a gas distribution channel, said gas distribution channel being configured for introducing a plasma source gas into a plasma processing chamber of a plasma processing system, comprising (**column 1 lines 10-26; a method for creating a tubular system capable of withstanding harsh conditions, especially corrosion**): providing a metal conduit (**figure 1,12**); providing a thermo-plastic tubular structure (**10**), made of PTFE, also known as Polytetrafluorethylene, (**column 1 lines 11-18**); disposing said thermo-plastic tubular structure within said metal conduit (**column 2 lines 27-30**), applying heat and pressure to said thermo-plastic tubular structure (**column 2 lines 62-72**), thereby causing said thermo-plastic tubular structure to mechanically couple with said metal conduit wherein an outer surface of said thermo-plastic tubular structure is longitudinally coupled with an inner surface of said metal conduit (**column 3 lines 4-5; figure 2**).
6. In regard to claim 3, St. John et al. state that the thermo-plastic tubular is constructed out of a PTFE resin (**column 1 lines 30-33**), and therefore would be coupled to the outer surface of the tubular.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over John et al. (US Patent No. 3,050,786) in view of applicant's admitted prior art (APA). In regard to claim 2, St. John et al. discloses the preferable use of a thermo-plastic lined metal tubular channel in corrosive applications, John et al. fails to disclose the channel being controlled by a mass flow controller of a plasma processing system. However, APA teaches a mass flow controller to control and regulate the mass flow of gas to the plasma processing system (**page 4, paragraph 0015**). It would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the thermo-plastic lined metal tubular with the mass flow controller in a plasma processing system in order to be able to regulate the chemical percentages and pressure within the corrosive resistant tube.

9. In regard to claim 5, although St. John et al. discloses the use of steel as the outer metal body, St. John et al. fail to teach the use of stainless steel. APA teaches the use of stainless steel in plasma processing systems. It is used for its anti-corrosive properties (**page 3 paragraph 0008**). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the thermo-plastic

tubular of St. John et al. with the stainless steel metal body in order to greatly increase the anti-corrosive properties of the channel.

10. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over John et al. (US Patent No. 3,050,786) in view of Gregornik et al. (US Patent No. 4,024,008). While St. John et al. disclose using a resin material in the thermo-plastic tubular, St. John et al. fail to disclose coating by use of molding injection. However, Gregornik et al. teach injection molding a resin to metal creates a highly superior bond (**column 2 lines 25-27**). It is also stated through Gregornik et al. that "molding of thermoplastic resins onto various metal parts is a well known technique" (**column 2 lines 65-67**). Furthermore, the metal on which the thermo-plastic resin is applied may be applied to a variety of metals including metal alloys (**column 2 lines 39-40**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have injection molded a thermoplastic resin to the surface of the metal and the thermo-plastic tubular in order to create a strong bond between the metal and the tubular.

11. Claims 19, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over John et al. (US Patent No. 3,050,786) in view of Gregornik et al. (US Patent No. 4,024,008). St. John et al. state all of the claimed information, as seen in above paragraphs 5 and 6, yet fail to teach injection molding. Also, as seen above in paragraph 10, Gregornik et al. teach injection molding a resin on a metal tubular structure. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used injection molding to bond a thermo-plastic resin to a

metal in order to create a strong bond while utilizing the anti-corrosive properties of the thermo-plastic material.

12. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over John et al. (US Patent No. 3,050,786) in view of Gregornik et al. (US Patent No. 4,024,008) and further in view of applicant's admitted prior art (APA). All of the claimed information has been addressed above in paragraphs 8 and 9. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used an injection molding technique, as described by Gregornik et al. to apply a resin, specifically PTFE, to a metal, specifically stainless steel, for the use in a plasma gas distributing system so as to not only take advantage of the anti-corrosive properties of the PTFE and stainless steel in the plasma gas conduit, but to also more efficiently connect make the conduit system.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Reid et al. (US Patent No. 3,372,462).

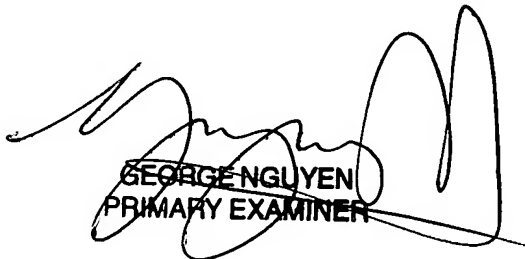
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas E. Mazzuca whose telephone number is (571)272-7813. The examiner can normally be reached on 7:30AM-4PM Mon-Fri.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Nguyen can be reached on (571)272-4491. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DEM

  
GEORGE NGUYEN  
PRIMARY EXAMINER

Douglas Mazzuca  
03/31/2006